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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,741	10/03/2003	Hassan Mostafavi	2018721-7012094003	6107
55499 7590 08/19/2008 Vista IP Law Group (Varian) 1885 Lundy Ave, Suite 108 San Jose, CA 95131				
EXAMINER				
RAMIREZ, JOHN FERNANDO				
ART UNIT		PAPER NUMBER		
3737				
MAIL DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/678,741

**Applicant(s)**

MOSTAFAVI, HASSAN

**Examiner**

JOHN F. RAMIREZ

**Art Unit**

3737

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-85 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,10-12,15,17-19,23,27-32,53-56,66,67,75 and 80-85 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims withdrawn from consideration are 2-9,13,14,16,20-22,24-26,33-52,57-65,68-74 and 76-79.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :02/21/07;03/06/06;01/17/06;07/22/05;04/01/05;03/30/05;12/06/04;08/30/04;03/04/04;01/23/04.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of species B in the reply filed on 04/16/08 is acknowledged.

Claims 2-9, 13-14, 16, 20-22, 24-26, 50-52, 57-65, withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 04/16/08.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 1, 10-12, 15, 17-19, 23, 27-32, 54-56, 66-67, 75, 80-85 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

In order for a method to be considered a "process" under §101, a claimed process must either: (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials). *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). If neither of these requirements

is met by the claim, the method is not a patent eligible process under §101 and is non-statutory subject matter.

With respect to claims 1, 15, 23 and 30 the claim language does not include the required tie that would provide the application of the test to the claim to reach the conclusion of non-statutory subject matter.

With respect to claims 56 and 75, the claim language does not include the required tie and does not include the required transformation that would provide the application of the test to the claim to reach the conclusion of non-statutory subject matter.

With respect to claims 10-12, 17-19, 27-29, 31-32, 53-55, 66-67 and 80-85 depend on claims 1, 15, 23, 30, 56 and 75 respectively, therefore the claim language does not include the required tie and/or does not include the required transformation that would provide the application of the test to the claim to reach the conclusion of non-statutory subject matter.

**Claims 56, 66-67, 75 and 80-82 are rejected under 35 U.S.C. 101 because:**

On October 26, 2005, the USPTO published Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility. See: (<[http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf)>).

This guidelines details a procedure for determining patent eligible subject matter. As to claims 56 and 75, the first step in this process is whether the claims fall within one of enumerated categories. In the immediate application, the claims are drawn to a

process - a "method for processing image data" and a "method for collecting image data" - and meets this step. However, the analysis does not end here. The next step is whether a judicial exception (abstract ideas, laws of nature, natural phenomenon) is provided in the claim.

In the immediate application, claim 56 clearly include one of the judicial exceptions in that the step of "acquiring image data of at least a part of an object over a time interval" and the step of "binning the image data based on a characteristic of a motion of the object" are nothing more than abstract ideas. Claim 75 also include one of the judicial exceptions in that the steps of "acquiring image data of at least a part of an object over a time interval" and the step of "sorting the image data based on a portion of a cycle of a motion of the object at which the image data are acquired" are nothing more than abstract ideas.

While abstract ideas alone are not eligible, the claim as a whole must be analyzed to determine whether it is for a particular application of the abstract idea.

For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomena. To satisfy the requirement of a practical application, the claimed invention must: (1) transform an article or physical object to a different state or thing; if no transformation, then (2) the claimed invention must produce a useful, concrete, and tangible result.

Regarding (1) above, the claims do not provide a transformation or reduction of an article to a different state or thing. Grouping equivalent dipoles based on predetermined criterion and solving inverse problems clearly do not transform an

article or physical object to a different state or thing. Accordingly, one must then consider whether the claimed invention produces a useful, concrete, and tangible result.

(1) Useful Result

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of the invention has to be (i) specific, (ii) substantial and (iii) credible. See MPEP 2107. It can be argued that the claim does not provide a useful result in that the claim does not actually solve a problem. It does not appear to be specific as to how the problem is solved and, if solved, it is not specific as to the use of this solution.

(2) Tangible Result

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a 101 judicial exception, in that the process claim must set forth a practical application of that 101 judicial exception to produce a real world result.

Regarding the tangible result requirement, the claim clearly does not provide a practical application. The problem, even if solved, is not practically applied to produce a real world result. For example, once the problem is solved, how is this then applied?

(3) Concrete Result

Another consideration is whether the invention produces a "concrete"

result. Usually, this question arises when a result cannot be assured. In other words, the process must have a result that can be substantially repeatable or the process must substantially produce the same result again. Resolving this question is dependent on the level of skill in the art. For example, if the claimed invention is for a process which requires a particular skill, to determine whether the process is substantially repeatable will necessarily require a determination of the level of skill of the ordinary skilled artisan.

Regarding the concrete result requirement, the claim does not provide a result that can be assured in that the result can not be substantially repeatable and the process can not substantially produce the same result again.

In view of the above analysis, applicant's claims 56 and 75 are a process, which includes a judicial exception therein. Upon review of the claim as a whole, there is no transformation nor do the claims produce a useful, concrete, and tangible result. Accordingly, the claims are non-statutory.

In relation to claims 66-67 and 80-81, depend from claim 56 respectively, and as such, include the various steps thereof. As discussed above, claim 56 is a method that provides no physical transformation and there is no practical application, which is useful, concrete and tangible. Accordingly, the claims are non-statutory.

In relation to claim 82, depend from claim 75 respectively, and as such, include the various steps thereof. As discussed above, claim 75 is a method that provides no physical transformation and there is no practical application, which is useful, concrete and tangible. Accordingly, the claims are non-statutory.



***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

**Claims 1, 10-12, 15, 17-19, 23, 27-32, 53-56, 66-67, 75, 80-85 are rejected under 35 U.S.C. 102(b) as being anticipated by Epstein et al. (US5997883).**

With respect to claims 15, 17-19, 23, 27-29, 84-85, Epstein disclose an NMR system and a computer (107) for generating one or more images having means for

collecting data samples representative of a motion of an object (see Fig.1; col. 2, lines 49-55); means for acquiring image data of at least a part of the object over a time interval (see Fig. 2, col. 2, lines 49-55); means for synchronizing the data samples and the image data to a common time base (col. 4, lines 23-57); means for generating one or more images based on the synchronized image data (col. 4, lines 58-65), wherein the means for generating is configured to generate an image using image data that are associated with a phase of the motion (see abstract, col. 4, lines 58-65), wherein the means for generating is configured to generate a first image using image data that are associated with a first phase of the motion, and a second image using image data that are associated with a second phase of the motion (col. 6, lines 42-67, col. 7 lines 1-22). Epstein et al. disclose a generation of multiple slice images from conventional spin echo sequence data results in slice images representing the heart at different phases of the cardiac cycle. Epstein also describes methods for generating time-lapse (i.e., "cine") images by using short repetition times and retrospective data resorting to bin the data according to cardiac phase (see abstract, col. 3, lines 45-67).

With respect to claims 1, 10-12, 30-32, 53-56, 66-67, 75 and 80-83, Epstein et al., teach all the structures as set forth above. The methods concerning the respective steps would be inherently met by the disclosure.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN F. RAMIREZ whose telephone number is (571)272-8685. The examiner can normally be reached on (Mon-Fri) 7:00 - 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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